Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS VEILLEUX, MATTHEW LACROIX,
RONALD LaLIBERTY, KEN BROWN and JOHN D. AXE

Appeal No. 2004-1195
Application No. 09/766,165

ON BRIEF

Before KIMLIN, GARRIS and WALTZ, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-32.

Claims 1 and 27 are illustrative:

1. A sport ball comprising a self-contained inflation mechanism, wherein said sport ball comprising a self-contained inflation mechanism has substantially the same rebound characteristics as a corresponding sport ball that does not comprise a self-contained inflation mechanism.

27. A method of determining the critical ratio of an inflated sport ball, comprising the steps of:

> a) determining the duration of the ball's impact with the floor;
>
> b) determining the half period of component vibration; calculating the critical ratio by dividing the half period of component vibration, (b), by the duration of the ball's impact with the floor, (a).

In the rejection of the appealed claims, the examiner relies upon the following references:

Weiss 5,098,095 Mar. 24, 1992

Robert Kemp Adair, The Physics of Baseball 44-106 (Harper & Row, New York 1989)

Appellants' claimed invention is directed to a sport ball comprising a self-contained inflation mechanism having substantially the same rebound characteristics as a ball without the inflation mechanism. The invention is also directed to a method of determining the "critical ratio" of an inflated sport ball which is derived by dividing the half period of component vibration by the duration of the ball's impact with the floor. As for the significance of the critical ratio, appellants' specification discloses the following:

> When this critical ratio is less than 0.95 for a regulation basketball, the maximum minus minimum rebound height is generally greater than five and one half inches, and the ball is therefore likely to be unacceptable for play due to dribbling problems. When this critical ratio is greater than or equal to 0.95, the maximum minus minimum rebound height is generally less than or equal to five inches, and the ball is therefore suitable for play. This critical ratio can

> be used in the design and development phase, as well as during quality control, to determine if an inflated ball will have rebound problems [page 11, lines 15-22].

Appealed claims 1-26 stand rejected under 35 U.S.C. § 112, second paragraph. Claims 1, 2, 8, 9, 18-21 and 24-26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Weiss. Claims 3-7, 10-17, 22, 23 and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Weiss. In addition, claims 27-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Adair.[1]

Appellants present the following groups of claims at pages 5 and 6 of the principal brief: (I) claims 1, 2, 8, 9 and 18-20; (II) claims 21 and 24-26; (III) claims 3-7; (IV) claims 10-17, 22, 23 and 32; and (V) claims 17-31. Appellants submit that the claims in each of the five groups stand or fall together.

We have thoroughly reviewed the respective positions advanced by appellants and the examiner. In so doing, we find that the examiner's § 112 rejection is not sustainable. However, we fully concur with the examiner that the claimed subject matter is unpatentable over the cited prior art for essentially those

[1] The § 103 rejection of claims 27-31 over Adair has been inadvertently omitted in the statement of the grounds of rejection in the Examiner's Answer.

reasons expressed in the Answer. Accordingly, we will sustain the examiner's rejection of the appealed claims under § 102 and § 103.

We consider first the examiner's rejection under § 112, second paragraph. According to the examiner, the terms "'corresponding' and 'comparable' are indefinite in describing sport balls that are to be compared to the instant invention" (page 2 of Final rejection of January 13, 2003, first paragraph). The examiner explains that "it would be impossible for the manufacturer to maintain the identical structure and just merely add the inflation mechanism to a sport ball" (page 3 of Answer, last paragraph). However, the examiner's reasoning misses the point that it is not the structure of the ball that corresponds to or is comparable with a ball without an inflation mechanism. Rather, the claims require that it is the "rebound characteristics" that are comparable to a ball not containing the inflation mechanism. Hence, it does not bear upon the definiteness of the claim language that "the addition of the self-contained inflation mechanism would require modifications to the sport ball such as increased wall thickness for balancing" (id.).

We next consider the § 102 rejection of claims 1, 2, 8, 9, 18-21 and 24-26 over Weiss. Weiss, like appellants, discloses a sport ball comprising a self-contained inflation mechanism. Although the shape of the ball depicted in Weiss' Figure 1 suggests a basketball or soccer ball, Weiss, like appellants, is not limited to any particular type of sport ball. Regarding the properties of the ball, Weiss teaches the following:

> The internal pumping mechanisms of the present invention is [sic] balanced and relatively light to minimize its effect on the throwing characteristics of the toy. The mechanism is also robust to resist damage when the ball is bounced . . .
>
> . . . .
>
> A still further object of the present invention is to position a deflation valve opposite from the inflation means in the ball to balance the weight of the inflation means to avoid erratic flight when the toy is thrown [column 1, lines 40-44 and 52-55].

As recognized by the examiner and emphasized by appellants, Weiss does not discuss the rebound characteristics of the ball. However, inasmuch as Weiss teaches that the inflation mechanism of the ball is relatively light and balanced, and the flight of the ball is not erratic when thrown, we concur with the examiner that there is a rational basis for concluding that the ball disclosed by Weiss has "substantially the same rebound characteristics" (emphasis added) as a corresponding ball not

containing the inflation mechanism. Significantly, appellants do not define the claim language "substantially the same" so as to patentably distinguish sports balls within the scope of the appealed claims from balls fairly taught by Weiss. Also, appellants have proffered no objective evidence which provides a comparison of rebound characteristics for balls fairly taught by Weiss and balls within the scope of the appealed claims. See In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990); In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In addition, the breadth of claim 1, and various other appealed claims, is underscored by the fact that the claims do not define a sport ball as comprising specifications for official play. We also find that one of ordinary skill in the art would have been sufficiently motivated to design a sport ball having a self-contained inflation mechanism that has "substantially the same" characteristics as balls not containing the inflation mechanism.

Concerning the minimum critical ratio recited in separately argued claim 21, appellants do not dispute the examiner's factual determination that Adair evidences that it was known in the art to evaluate the rebound characteristics of a ball by determining the half period of component vibration and duration of the ball's

impact, the two parameters used to define the critical ratio. Hence, it is reasonable to conclude that the ball of Weiss, having substantially the same rebound characteristics as a ball without the inflation mechanism, would also have substantially the same minimum critical ratio.

We now turn to the examiner's § 103 rejection of claims 3-7, 10-17, 22, 23 and 32 over Weiss. As noted above, we find that Figure 1 of Weiss fairly suggests the basketball of separately argued claims 3-6 and the soccer ball of claim 7. Also, Weiss discloses that "a preferred embodiment of the invention is a spherical ball" (column 1, lines 56-57). As for the specific rebound distance recited in claim 10, appellants' specification discloses that "it has been found that a basketball generally must rebound to a height of between fifty and fifty-six inches overall to be acceptable, although individual preferred rebound height may vary from player to player" (page 8, first paragraph). Manifestly, to the extent that the claimed rebound distance of 50-57 inches is conventional in the art, it would have been obvious for one of ordinary skill in the art to design the Weiss ball to exhibit such a rebound distance. Moreover, it would have been obvious for one of ordinary skill in the art to

design a basketball having a rebound distance that is suitable for the particular individuals playing the game.

We now turn to the examiner's rejection of claims 27-31 under § 103 over Adair. As noted above, appellants do not dispute the examiner's finding that Adair teaches that the rebound characteristics of a baseball off of a bat can be evaluated by measuring the same two parameters which define appellants' critical ratio, namely, the duration of the ball's impact with the surface, and the half period of component vibration. We agree with the examiner that simply because Adair does not devise an arbitrary ratio of the two parameters, it does not follow that the use of such known parameters in the manner disclosed by appellants would have been nonobvious to one of ordinary skill in the art. Clearly, using the inverse of appellants' critical ratio would not qualify as a patentable distinction over using the critical ratio.

We are not persuaded by appellants' argument that claims 27-31 are directed to determining the critical ratio of an inflated sport ball, whereas Adair is directed to baseballs, not inflated sport balls. Nor are we persuaded by the argued distinction between appellants' study of the ball's impact with the floor and Adair's study of the ball's impact with a bat.

Rather, we find ourselves in agreement with the following reasoning set forth at page 7 of the Examiner's Answer:

> However, it would have been obvious to one of ordinary skill in the art to extend the teachings of Adair to other sport balls and their respective impact surfaces (baseball and bat, tennis ball and racket or floor and basketball and floor). Adair is concerned with the rebound characteristics of a sport ball when contacting an impact surface. These teachings would also be important to various other sports where a ball is contacting a surface. Regarding the "critical ratio", Adair measures the half period of component vibration and the duration of ball's impact. To take these numbers and calculate appellant's [sic] "critical ratio" would have been obvious to one of ordinary skill in the art in order to provide a quick table for reference purposes. The fact that other forces (force of the bat) occur in the game of baseball that do not occur in the game of basketball would obviously be compensated for when applying the teachings of Adair to measure the impacts of a basketball with the floor.

As a final point with respect to the § 103 rejections, appellants base no argument upon objective evidence of nonobviousness, such as unexpected results.

In conclusion, based on the foregoing, the examiner's rejection under 35 U.S.C. § 112, second paragraph, is reversed, whereas the examiner's rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) are sustained. Accordingly, the examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

EDWARD C. KIMLIN Administrative Patent Judge	)	
BRADLEY R. GARRIS Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
THOMAS A. WALTZ Administrative Patent Judge	)	

ECK:clm

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